

EXECUTIVE SUMMARY

Mine Name: Bingham Pit/UCD Modernization Project/4th Line Expansion

I.D. No: M/035/002

Operator: Kennecott Utah Copper Corporation
P. O. Box 525
Bingham Canyon, Utah 84006-0525
Telephone: (801) 569-6555

County: Salt Lake
New/Existing: Existing
Mineral Ownership: Private
Surface Ownership: Private
Lease No.(s): None
Permit Term: Life of Mine

Contact Person: Michael Gibson

Life of Mine: Unspecified

Legal Description: SW 1/4 Section 5, and SE 1/4 Section 6, W 1/2 Section 8, Township 3 South Range 2 West, SLBM

Mineral(s) to be Mined: Copper/Molybdenum

Mining Methods: Open Pit

Acres to be Disturbed: 117

Present Land Use: Mining, agriculture, wildlife

Postmining Land Use: Dry land farming and wildlife habitat

Variances from Reclamation Standards (Rule R613) Granted: None

Soils and Geology:

Soil Description: Clay loam, topsoil depth @12 inches, subsoil @ 12-60 inches

pH: 6.2 - 7.6

Special Handling Problems: None

Geology Description: East flank, northern Oquirrah Mountains, underlain by Harkers Alluvium (Pleistocene), Harkers is overlain by mid-late Pleistocene Lake Bonneville lacustrine deposits and by late Pleistocene alluvial fan deposits.

Hydrology:

Ground Water Description: Principal aquifer occurs @ 350-500 feet below surface of project area. Some local perched aquifers also occur.

Surface Water Description: Local drainages include Barneys Canyon Creek and Barneys Wash (both intermittent in the vicinity of the site).

Water Monitoring Plan: A groundwater monitoring plan was approved for the UCD Modernization Project, in 1985, to monitor potential impacts to the groundwater regime in the project area.

Ecology:

Vegetation Type(s); Dominant Species: Abandoned dry land farming, sagebrush, gambles oak, various grasses and forbs, Mountain shrub vegetation community. Pinion-Juniper in places.

Percent Surrounding Vegetative Cover: 35% lower elevations and 50% higher elevations.

Wildlife Concerns: No further impacts are expected from the expansion project.

Surface Facilities: New facilities for the 4th Line Expansion will include: extension coarse ore storage pile; extension of existing grinding building; addition of a new reclaim tunnel under coarse ore stockpile; new semi-autogenous grinding mill; two new ball mills; extension of the existing flotation building; extension of existing molybdenite recovery plant; new copper concentrate thickeners; new tailings thickeners; improvements to the freshwater supply and distribution system; additional surface water run-off retention pond; additional paved areas.

Mining and Reclamation Plan Summary:

During Operations:

The operation of the fourth mill line expansion will increase the Copperton concentrator capacity from a nominal 77,000 tpd to 112,000 tpd. The additional 35,000 tpd will be processed as follows:

Ore from the Bingham Canyon mine will be transported to the Copperton concentrator via the existing belt conveyor to an existing coarse ore storage pile. To accommodate the fourth mill, the coarse ore storage facilities will be extended to the north to provide adequate new storage capacity over and around the draw-down points for the 4th mill reclaim feeders. These feeders will be located in a new reclaim tunnel under the coarse ore stockpile extension and meter the coarse ore onto a new belt conveyor that feeds the new SAG mill. The coarse ground ore passes from the SAG mill to two new parallel ball mills. The finely ground ore will then enter a new first stage flotation circuit. The product from this stage is a copper/molybdenite concentrate which will be commingled with the copper/molybdenite concentrate from the existing three mill lines.

Some copper/molybdenite concentrate trucked from the Magna concentrator may be added at this point. The combined copper/molybdenite concentrate is next processed in the expanded Moly plant which separates the copper concentrate from the molybdenite concentrate and also cleans the molybdenite to required product quality. The molybdenite product is then packaged for shipment.

Copper concentrate leaves the Moly plant and goes through a final flotation circuit that will be increased in size as part of the fourth mill line expansion. The copper concentrate is then transported to the Garfield smelter area through the existing concentrate pipeline. The existing filter plant at Garfield will be expanded to accommodate the increased quantity of copper concentrate which must be dewatered prior to smelting or direct sale.

The tailings from the Copperton concentrator will be disposed of at the existing tailings pond near Magna through the existing tailings pipeline. However, with the addition of the fourth mill line, the volumetric capacity of the tailings pipeline (60,000 gpm) will be exceeded. Three new 400-foot diameter tailings thickeners will be added to increase the density of the solids in the tailings slurry before it is put in the tailings pipeline.

Other features of the facility and its operation are essentially unchanged from the information presented in the DOGM NOI for the existing Copperton concentrator.

Approximately 85 acres of the site will be disturbed and covers the area of and around the proposed tailings thickeners, surface water retention pond, tailings pipeline extension, sanitary wastewater absorption field, general fill stockpile and portions of the two topsoil stockpiles.

An additional area of approximately 32 acres of the site will be temporarily disturbed to accommodate construction activities. This acreage will include temporary areas for construction lay-down, batch plant, parking, contractor trailers, portions of the two topsoil stockpiles and a temporary access road to the site from the existing road to the Barney's Canyon plant site.

Following Operations:

Following permanent closure of the Copperton concentrator and associated facilities, usable equipment will be salvaged and sold. The time necessary to complete this process is very difficult to forecast because of the highly variable used equipment market. Two years is estimated. Following sale of salvageable equipment, the surface structures will be razed. Whenever possible, salvageable material will be sold as scrap for recycle.

Otherwise, the material and debris will be removed to an approved solid waste landfill. This step is expected to require two years. After razing, foundations will be broken apart, removed and/or buried. Parking and driving surfaces will be broken up and buried. The area will then be regraded and compacted areas will be ripped to 12 inches. This aspect of the final reclamation is expected to require one year. During the first October following the completion of regrading, the area will be replanted.

KUC did not store any first horizon soil for final reclamation use for the Copperton Modernization Project. Instead, following construction, a test program was established to determine techniques for best reclaiming the second horizon soil to a vegetative support level equivalent to the nearby undeveloped areas. The information collected by the test program will be used along with other appropriate input, to determine the detailed final reclamation procedures for the facilities and areas associated with the Copperton Modernization Project following permanent closure.

KUC intends to stockpile topsoil for final reclamation of the areas (117 acres) to be disturbed for this amendment associated with the Copperton concentrator fourth mill line expansion. The upper horizon soil will be scraped from the site after grubbing and clearing has occurred and will be stored in two stockpiles. A portion of each topsoil stockpile will be used for both final and post-construction reclamation. A few facilities will remain after final reclamation as indicated in the final reclamation plan for the Phase II Copperton Modernization Project. The two pipelines will remain in place for use in diverting area surface flows from the populated areas east of the site. The pipeline and conveyor service roads will remain in place to permit pipeline access.

Surety:

Amount: \$5,017,000

Form: Irrevocable Letter of Credit

Renewable Term: Automatic renewal on annual basis

jb
WMN/1-4

Reclamation Estimate

April 4, 1990

Kennecott Utah Copper Corporation
Copperton Conc. 4th Line Expansion

Salt Lake County
M/035/002

Prepared by Utah State Division of Oil, Gas & Mining

Description	Quantity	Unit	\$/Unit	Cost(\$)
=====	=====	=====	=====	=====
POST-CONSTRUCTION RECLAMATION				
Recontour, Topsoil, Fertilize, Till, Seed	32	acre	2,600	83,200
POST-MINING RECLAMATION				
Earthwork (Load, Haul, Spread Soil)	78,000	CY	1.80	140,400
Earthwork (Load, Haul, Spread Fill)	500,000	CY	1.65	825,000
Concrete (Demolition)	6,250	CY	34	212,500
Steel (Demolition)	3,680	ST	185	680,800
Building Finish (Demolition)	1 Lot	1 Lot	lump sum	136,500
Tanks & Mech. Bulks (Demo.)	930	ST	125	116,250
Mechanical Equipment (Demo.)	6,900	ST	104	717,600
Piping (Demolition)	97,210	LF	1.96	190,532
Electrical Equipment (Demolition)	1 Lot	1 Lot	lump sum	116,000
Cable Trays & Conduit (Demolition)	166,400	LF	0.40	66,560
Wire & Cable (Demolition)	300,000	LF	0.20	60,000
Load & Haul Mtls. (Dump & Salvage)	14,600	CY	45	657,000
Recontour, Fertilize, Till, Seed	85	acre	1,900	161,500
SUBTOTAL				4,163,842
+10% CONTINGENCY				416,384
SUBTOTAL				4,580,226
ESCALATION (1.84% FOR 5 YRS)				437,176
TOTAL				5,017,401
ROUNDED TOTAL (1995 \$)				5,017,000
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The language in the Irrevocable Letter of Credit (ILOC), provided with this material, has been proposed as a new standard ILOC form by the Division's legal counsel.

None of this surety will cover property beyond the extent of the Modernization Project. The Modernization Project falls within the scope of the Bingham Pit Mine, which covers 23,000 acres. The Bingham Pit Mine is covered by a Board Contract which requires an expenditure of \$50,000 (reclamation expenses) per year.

The 4th Line Expansion encompasses no federal or state properties, therefore, joint surety is not required in this situation.

Please find attached a Board checklist indicating other attached items to be included in this request.

jb
Attachments
WMN/10-11

DOGM MINERALS PROGRAM

CHECK LIST FOR BOARD APPROVAL
OF
FORM AND AMOUNT OF SURETY

Mine Name Bingham Canyon

4th Line Expansion

File No. M/035/002

Item	Provided		Remarks
	Yes	No	
Executive Summary	X		
Location Map	X		
Reclamation Bond Estimate	X		
Signed Reclamation Contract	X		
Signed Power of Attorney/ Affidavit of Qualification		X	
Bond/Reclamation Surety	X		Irrevocable Letter of Credit \$5,017,000
Surety Signoff (Other State/Federal Agencies)		X	No other agencies involved

MN76/19